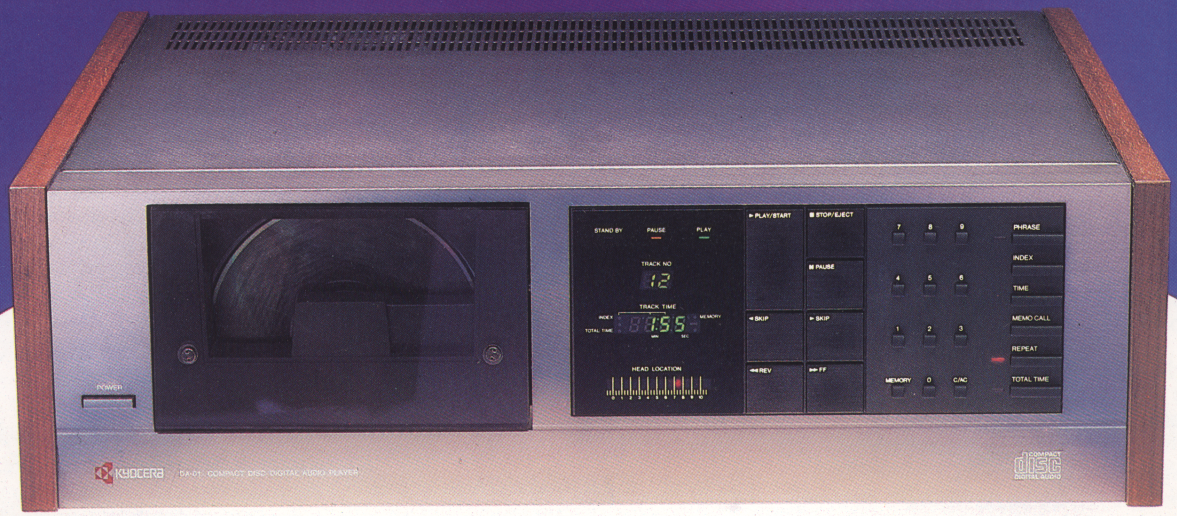
KYOCERA DA-01

COMPACT DISC PLAYER



KYOCERA

MASTERING THE ART OF SOUND

THE KYOC
COMPACT DISC DIGITAL A
FILTERS TO MAINTAIN A

Sound that gives you a complete sense of being there–right in the concert hall.

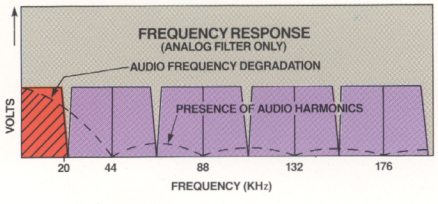
Sound that truly duplicates the thunder of a symphony orchestra or a rock concert–with a 90 dB+ dynamic range.

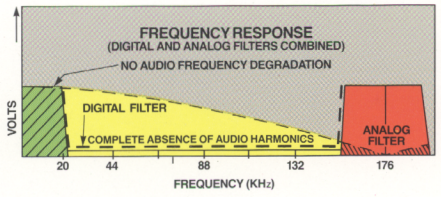
Sound that gives you all the highs and all the lows. And absolute silence where there's supposed to be absolute silence.

This is the revolutionary compact disc system. The sound of tomorrow here today...in absolute sonic purity... particularly when your compact discs are played through the *Kyocera DA-01 Compact Disc Player*, an audio masterpiece that stands apart.

Why put two filters in one great disc player?

Kyocera has gone to double lengths to make sure there's negligible distortion in its disc player. Such thoroughness is typical of the advanced Kyocera engineering that has made its audio components the talk of the industry. Kyocera provides both digital and analog filters in its DA-01. You see, even though modern technology has made analog filters pretty effective, there can be a problem–analog filters alone render limited performance. By combining an analog filter with a digital filter, and precisely applying both types in just the right way, the limitations found with analog filters alone aren't there anymore. Thanks to these filters, and an impressive array of very advanced circuitry, the Kyocera CD Player provides accurate, crystal-clear, lifelike sound.





The awesome specs that only the compact disc system can provide.

Needless to say, the Kyocera DA-01 comes through with some specifications that are mind-boggling: A full 90 dB dynamic range...flat frequency response from 20-20,000 Hz...a very, very quiet 90 dB S/N ratio...and total isolation 90 dB channel separation.

But for all that performance, the DA-01 plugs right into your present audio system–Kyocera or others. The Kyocera Player is easier to use than a modern cassette deck! Simply connect it to the "Auxiliary" or "Tape Play" input of your amplifier or receiver.

The compact disc system–what it is and how it works.

To understand the *digital* compact disc system, you first have to look at the more conventional analog system. In conventional LP records the original sound (voice and/or music) is recorded through a mechanical replica, or *analogy*, of it. It's that analogy, in the form of squiggly grooves on a conventional LP's surface that your stylus traces when you play a record. Trouble is, the stylus can damage the soft vinyl walls of the record grooves. And dust specks and scratches create those annoying clicks and pops; and sonic quality drops sharply after just a few dozen plays of the record. Also, dynamic range of conventional LP's is limited to some 60 dB.

What makes the compact disc different.

The compact disc is based on *digital audio*–a new way of recording, storing and reproducing sound that is an outgrowth of computer technology. Under this system, sounds are assigned numerical codes–one of 65,536 codes assigned to each *sample* of music being recorded, with samples taken 44,100 times each second. Each sample's amplitude is read out with a binary system of 0 or 1–this is called *quantizing*. The quantized digital signals are engraved on the compact disc in the form of microscopic pits.

Since this sampling, or digital encoding, is taken numerically, it has none of the drawbacks of analog recording–no tape hiss, no distortion, no wow and flutter, and none of something called *generational entropy* (this is where an analog signal deteriorates each time it is transferred and reproduced from tape to tape or tape to disc). The digital signal remains accurate to the original no matter how many times it is transferred.

CERA DA-01
UDIO PLAYER-WITH TWO
BSOLUTE SONIC PURITY.

How the DA-01 plays back that magnificent sound.

With the Kyocera CD Player, no stylus comes in contact with the disc; instead, *it reads the sounds encoded on the compact disc in the form of microscopic pits with a laser beam.* There is no stylus, no dust, no pops or clicks–and no record wear. Your compact disc, therefore, has an almost permanent life–it won't wear out like conventional records.

The compact disc itself, which is 12 cm in diameter (that's about four and three-quarter inches), rotates in the DA-01 Disc Player at about 500 rpm on its inner circuit and about 200 rpm on its outer circuit. Thanks to the huge amount of digital data that can be stored on the disc, *one side can play up to 60 minutes!*

Playing a compact disc is easier than playing a cassette.

1. Depress Power Switch to turn DA-01 on.
2. Push Stop/Eject Button to open disc compartment.
3. Insert compact disc into slot in open disc compartment until it locks into place.
4. Push disc compartment shut.
5. Push Play Button and digital sound is yours!
   And remember your digital discs are virtually indestructible–normal handling has no effect on program content.

The DA-01 gives you total mastery over compact discs.

This Kyocera Disc Player has a very large capacity micro-computer and a 10-key memory system to assure complete ease of operation and total control of all functions. You can achieve all of the following with just the touch of a finger:

- You can use the memory for random access playing of up to 24 programs.
- You can command the program memory feature to skip over undesired programs.
- You can utilize the index search feature to play from a particular point on the program.
- You can put the repeat feature to work to play a program over and over.
- You can use the phrase memory to play repeatedly a particular section in the program.
- You can conveniently forward or reverse to any program desired.
- You can temporarily disengage playback mode with the pause feature.
- The Track Time Indicator can be used to (1) indicate the playing time of each track, (2) total playing time of all the tracks having been played, and (3) the memory time assigned from which a particular program is to start playing.
- You can refer to the Head Location Analog Indicator to determine where the optical reading head (with the laser beam) is located on the compact disc.

What you can do with the DA-01 at the touch of a button.

Here are the basic function of the DA-01's transport control system.

Play/Start. Press to start playing a disc. Also press after having entered memory program in *Track, Index, Time,* and *Memory* modes.

Stop/Eject. Press to stop disc. Press harder to open Disc Compartment for loading and unloading.

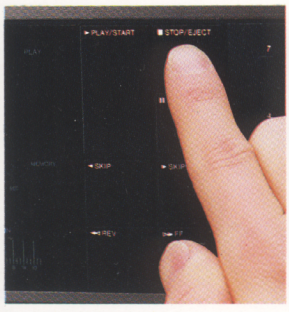
Pause. Press to stop disc playing temporarily.

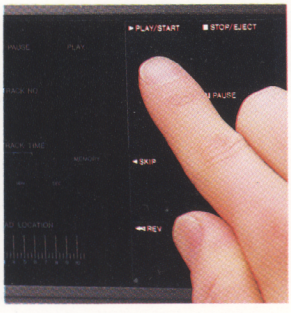
Skip (Reverse). You can skip back to the start of the number you're playing, skip back to the previous number, or skip all the way back to the start of the disc.

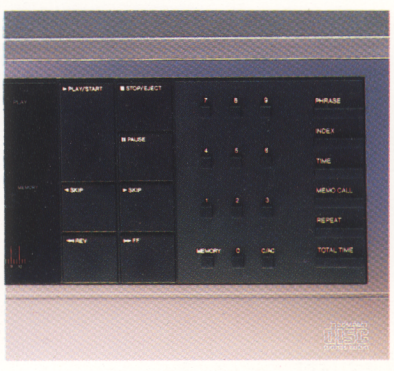
Skip (Forward). Press to move to the next number. When pressed during Memory Playing, it skips to the next memory program.

Reverse. Press to revert to desired position. Two-speed function.

Fast Forward. Press to advance forward to desired position.







The complete specification story.

For the more technical minded, the following block diagram gives a graphic picture of the basic functions and circuits of the Kyocera DA-01 Compact Disc Player:

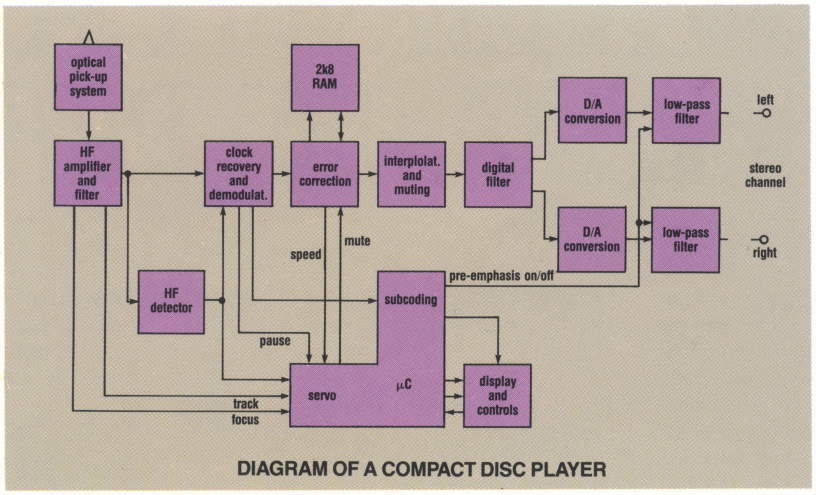


DIAGRAM OF A COMPACT DISC PLAYER

Audio

Frequency response	20-20 kHz ± 0.5 dB
S/N ratio	More than 90 dB
Dynamic range	More than 90 dB
Channel separation (1 kHz)	More than 90 dB
Harmonic distortion (1 kHz)	Less than 0.005%
Wow & Flutter	Relevant to crystal quartz tolerance
Audio output	2.0 V rms

Disc

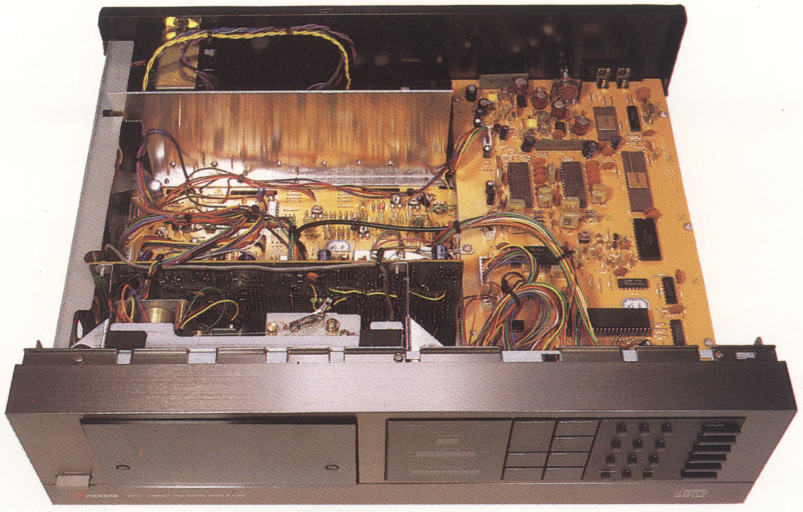
Playback time, single side, 2-channel	Approximately 60 minutes
Scanning velocity	1.2-1.4 m/s
Revolution, viewed from pickup side	Counterclockwise
Track pitch	1.6 micrometer
Disc diameter	120 mm
Disc thickness	1.2 mm
Center hole diameter	15 mm
Signalling area	50 mm

Signal Format

Number of channels	2
Quantization	16 bit linear/channel
Error correction	CIRC
Sampling frequency	44.1 kHz
Channel modulation code	E.F.M
Channel bit ratio	4.3218 Mb/s

Electro/Mechanical

AC power requirement	AC 120 V 60 Hz
Power consumption	30 watts
Dimensions	
Width	460 mm (18¼")
Height	132 mm (5³⁄₁₆")
Depth	320 mm (12⅝")
Net weight	18.5 lbs. (8.4Kg)



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